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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/732,391 | 12/07/2000 | James D. Spurgeon | 32040US1 | 9867 |

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PEARNE & GORDON LLP
526 SUPERIOR AVENUE EAST
SUITE 1200
CLEVELAND, OH 44114-1484

EXAMINER

HUTTON JR, WILLIAM D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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3676

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,391

Applicant(s)

SPURGEON, JAMES D.

Examiner

Doug Hutton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7,12-14 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,12-14 and 18-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 November 2002 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, 12-14 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donley, U.S. Patent No. 3,560,004, in view of Jenkins, U.S. Patent No. 2,464,136.

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Claim 1:

Donley discloses a sealing system for a rotating machine (Column 1, Lines 6-7) having a stationary element (1, Figure 1) and a drive element (3) rotationally connected to said stationary element (Column 2, Lines 16-18), the sealing system comprising:

- a plate (36 or 37, Figure 1) comprising a bearing surface (see "bearing surfaces" of plates 36 or 37, Figure 1; Column 3, Lines 23-25), the plate for connecting to one of said drive element and said stationary element (see Figure 1); and
- a sealing assembly (6, Figure 1) comprising a resilient bellows (30, 31, 33 and 34) and a bearing surface (see "bearing surfaces" of plates 35, Figure 1; Column 3, Lines 23-25), the bellows having a tapered collar (see "tapered collar" of bellow components 33 and 34, Figure 1) extending inwardly from an end of the bellows (Column 3, Lines 18-22), and the bellows providing a force (the force is provided by springs 30 and 31, Figure 1) which causes the bearing surface of the sealing assembly to bear on the bearing surface of the plate to form a dynamic seal.

Donley fails to disclose bellows having a plurality of corrugations. However, bellows having a plurality of corrugations was well-known in the art at the time the invention was made, as demonstrated in Jenkins (see bellows having a plurality of corrugations, Figure 3).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bellows, disclosed in Donley, to have a plurality of corrugations, as taught in Jenkins.

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Claim 2:

Donley discloses a thrust plate (35, Figure 1) attached to the collar, said thrust plate providing said bearing surface of the sealing assembly.

Claim 5:

Donley discloses a mounting element (40 or 41, Figure 1) for connecting said plate to said one of said drive and stationary elements.

Claim 12:

Donley discloses a seal chamber (2, Figure 1) which at least partially encloses said sealing assembly.

Claim 13:

Donley discloses a seal chamber defined by the stationary element (see Figure 1).

Claim 14:

Donley discloses a seal gland (4, Figure 1) which closes an area of the seal chamber (see Figure 1).

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Claim 18:

Donley discloses a resilient bellows (30, 31, 33 and 34; Figure 1) for a sealing system in a rotating machine having a stationary element (1) and a drive element (3) rotationally connected to said stationary element (Column 2, Lines 16-18), the resilient bellows comprising:

- a hollow body (see "hollow body" of bellows, Figure 1); and
- a tapered collar (see "tapered collar" of bellow components 33 and 34, Figure 1) extended inwardly from an end of the body (Column 3, Lines 18-22) for receiving a plate (see Figure 1).

Donley fails to disclose bellows having a plurality of corrugations in the body. However, bellows having a plurality of corrugations in the body was well-known in the art at the time the invention was made, as demonstrated in Jenkins (see bellows having a plurality of corrugations in the body, Figure 3).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bellows, disclosed in Donley, to have a plurality of corrugations in the body, as taught in Jenkins.

Claim 19:

Donley discloses a tapered collar comprising an inwardly turned edge of the body (see Figure 1).

Claim 20:

Donley discloses a tapered collar having a frustoconical shape (see Figure 1).

Claim 21:

Donley discloses a sealing structure disposed at the tapered collar for statically sealing the plate to the bellows (see Figure 1).

Claim 22:

Donley fails to expressly disclose a gasket in the "sealing structure" disposed at the tapered collar. However, Donley discloses a gasket (41, Figure 1) between another bellows (38) and another plate (16) for use in statically sealing the plate to the bellows (Column 3, Lines 30-34).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sealing structure to include a gasket at the tapered collar for the purpose of statically sealing the plate to the bellows, as taught in Donley.

Claim 23:

Donley fails to expressly disclose a sealant in the sealing structure disposed at the tapered collar. However, sealants were well-known in the art at the time the invention was made, as demonstrated in Jenkins (Column 1, Lines 11-12).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sealing structure to include a sealant at the tapered collar, as taught in Jenkins.

Claim 24:

Donley discloses a method for forming a resilient bellows (30, 31, 33 and 34; Figure 1) for a sealing system in a rotating machine having a stationary element (1) and a drive element (3) rotationally connected to said stationary element (Column 2, Lines 16-18), the method comprising the steps of:

- forming a bellows having a hollow body (see "hollow body" of bellows, Figure 1);
and
- folding an end of the body inwardly to form a collar for receiving a plate (see "inwardly folded end" of body for receiving plate 35, Figure 1).

Donley fails to disclose a "corrugated" (meaning a "plurality" of corrugations) hollow body. However, bellows having a plurality of corrugations in the hollow body was well-known in the art at the time the invention was made, as demonstrated in Jenkins (see bellows having a plurality of corrugations in the hollow body, Figure 3).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the hollow body, disclosed in Donley, to have a "corrugated" hollow body, as taught in Jenkins.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donley, in view of Jenkins, and further in view of Darnell, U.S. Patent No. 3,601,413.

Claim 7:

As indicated in the above rejection, Donley, in view of Jenkins, discloses every element of Claim 1. Donley also discloses a plate that provides a sealing and lubricating layer to the dynamic seal (Column 3, Lines 39-50).

Donley, in view of Jenkins, fails to disclose a plate comprising graphite. However, plates comprising graphite were well-known in the art at the time the invention was made, as demonstrated in Darnell (70 and 74, Figure 3; Column 3, Line 45 through Column 4, Line 1).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the plate, disclosed in Donley, in view of Jenkins, to comprise graphite, as taught in Jenkins.

Response to Arguments

Applicant's arguments filed 25 November 2002 have been fully considered but they are not persuasive.

Applicant argues that Donley fails to disclose a tapered collar extending inwardly. Rather, Applicant argues, the inside surfaces of the support members (33 and 34, Figure 1 of Donley) that engage the sealing rings (35, Figure 1 of Donley) are

cylindrical instead of tapered like the collar in Applicant's invention. See *Applicant's Response* – Paper No. 10, Page 5, Lines 12-17.

Examiner disagrees. Upon closer inspection of Figure 1 of Donley, one finds that the collar (33 and 34, Figure 1) does taper inwardly. Donley points out, in Column 3, Lines 8-11, that the seal illustrated in Figure 1 is more specifically described in U.S. Patent No. 3,131,941 to Donley. That patent specifically discloses that the collar is not cylindrical, but rather is inwardly tapered (see '941 – Column 3, Lines 21-25).

Accordingly, Donley '004 does disclose a tapered collar extending inwardly.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doug Hutton whose telephone number is (703) 305-1701. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached at (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

WDH
February 11, 2003


ANTHONY KNIGHT
SUPERVISORY PATENT EXAMINER
TECH CENTER 3600